Physiology labs for blood (3)

# قياس الهيموجلوبـــــين (المعمل الثاني)

# Hemoglobin estimation ( lab 2)

المجموعة السابعة

تلخيص /

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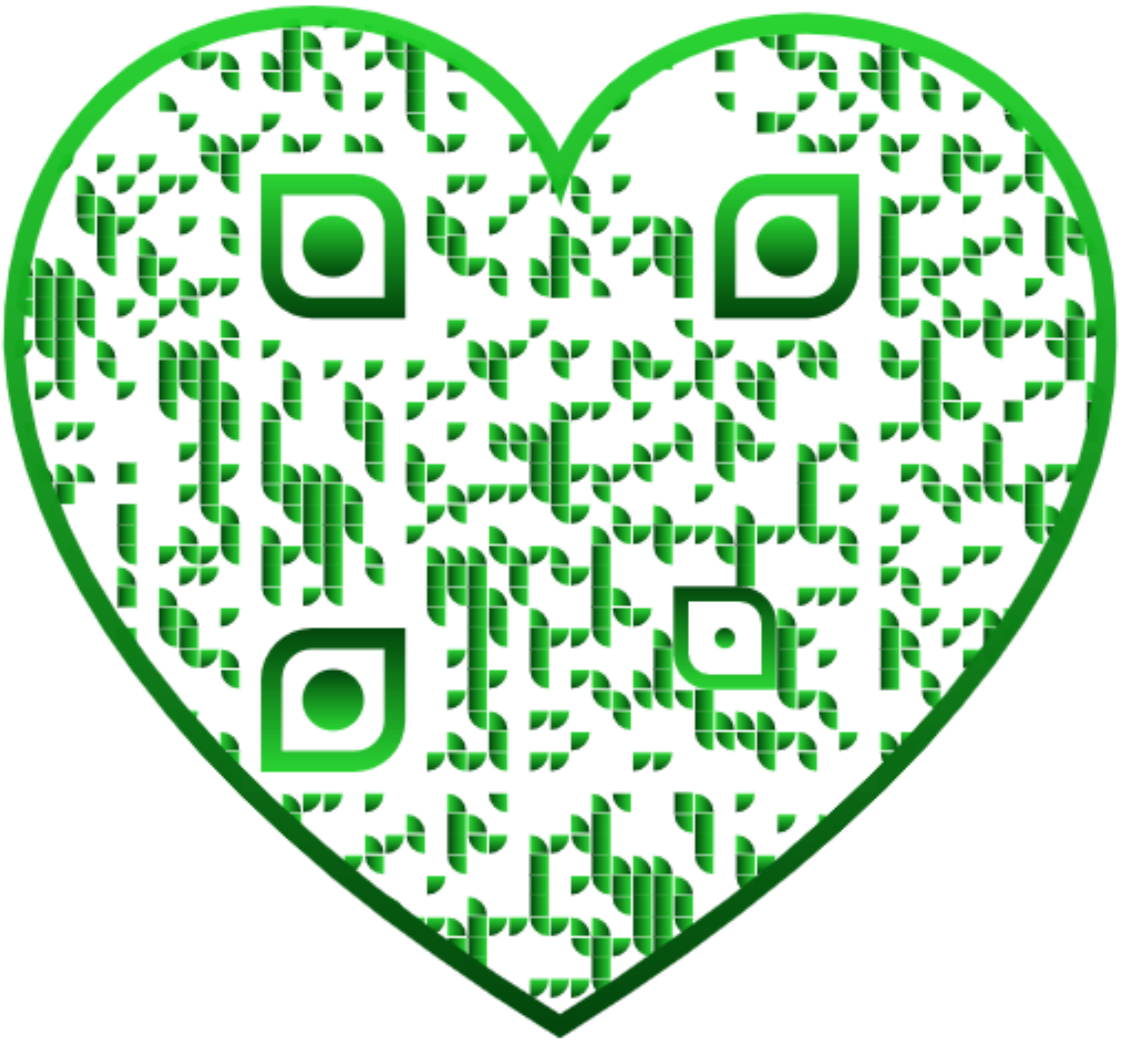

In this lab we will study about the new manual method for Hemoglobin(HB) estimation , the **Cyanmethemoglobin method .**

In this method, a Spectrophotometer is used to measure the amount of light absorbed by the colored compound **Cyanmethemoglobin**, because All forms of Hb normally present in blood (i.e. oxyHb, reduced Hb, carboxyHb, and metHb) are converted into the stable compound **cyanmethemoglobin** by the action of **Drabkin reagent**

**Characteristics of drabkin reagent:**

**1-contains potassium cyanide, potassium ferricyanide, and other substances that (1)** remove the lipid from the RBCs and destroy the RBCs causing the hemo globin to expel out of them **(2)**convert the hemoglobin into cyanmethemoglobin

**2-it must be diluted by distilled water by 1/90 ratio** . The drabkin used in the lab is already diluted

**3- after dilation, it must be used within 6 hours and must not be exposed to sunlight.**

**4- it must be clean ,pale yellow , not turbid and having PH of 7**

**Steps of this method:**

**1. Take 5ml of Drabkin's solution in a test tube.**

**2. draw 20ul of blood into the pipette**. Wipe the outer surface of the pipette to remove excess blood.

**3. Place the pipette into the tube containing Drabkin's solution and slowly expel the blood into the solution**. Mix well and let it stand undisturbed for 3-5 minutes then put the solution in the special cuvette of the spectrophotometer.

**4. after zeroing the spectrophotometer using Drabkin's solution as blank.** put the cuvette containing the solution in the spectrophotometer to Measure the absorbance of this solution at wave length 540nm

**5. Calculate the hemoglobin concentration by multiplying the number that appears in the screen by 37** . for example 0.31 x 37 = 11.47 g/dl

*** currently the drabkin reagent in the lab is very old so the results are not very accurate**